

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of encoding a data packet with one or more extension fields, wherein the data packet substantially conforms to a standardized AV/C command or response data packet for transmitting the data packet over a network, the method comprising:
 - a) providing a data packet with a control data frame having a fixed payload, wherein the control data frame comprises a sequence of data fields; and
 - b) providing extended fields data within at least one of the data fields, wherein the extended fields data encodes the data packet for the extension data field and includes a value representing a quantity of extension data included within the data packet, further wherein the data packet is an asynchronous data packet comprising a header portion and wherein the control data frame includes a cts data field, a data type data field, a subunit type data field, a subunit ID data field, and operand data fields and wherein the extended fields data is provided within the cts data field and the extension data field holds at least one byte of extension data.
2. (original) The method of claim 1, wherein the network is a network which substantially complies with a version of the IEEE 1394 standard.
3. (canceled)
4. (currently amended) ~~The method of claim 1;~~ A method of encoding a data packet with one or more extension fields, wherein the data packet substantially conforms to a standardized AV/C command or response data packet for transmitting the data packet over a network, the method comprising:
 - a) providing a data packet with a control data frame having a fixed payload, wherein the control data frame comprises a sequence of data fields; and
 - b) providing extended fields data within at least one of the data fields, wherein the extended fields data encodes the data packet for the extension data field and includes a value representing a quantity of extension data included within the data packet, further

wherein the value within the extended fields data comprises one byte of data including a first hexadecimal data value and a second hexadecimal data value and encodes the data packet to hold a number of extension data bytes, wherein the number of extension data bytes is determined such that when the first hexadecimal data value of the extended fields data is equal to eight, the second hexadecimal data value of the extended fields data equals the number of extension data bytes; and when the first hexadecimal data value is equal to nine, the number of extension data bytes is fifteen plus the second hexadecimal data value.

5. (original) The method of claim 4, wherein the extended fields data further encodes the data packet for a transaction data field capable of holding one byte of transaction data.
6. (canceled)
7. (currently amended) A data stream for asynchronous data transmission from a client device to a target device over a standard IEEE 1394 serial bus network, wherein the stream of data comprises data packets with control data frames having a fixed data payload and, wherein at least one of the data packets comprises a control data frame with extended fields data and feature data, wherein the extended fields data provides a signature for the presence of the feature data to the target device and a value representing a quantity of feature data within the data packet, further wherein the feature data includes one byte of feature data that provides a transaction label code representing a history of a previous data transmission between the client device and the target device.
8. (canceled)
9. (currently amended) ~~The data stream of claim 7,~~ A data stream for asynchronous data transmission from a client device to a target device over a standard IEEE 1394 serial bus network, wherein the stream of data comprises data packets with control data frames having a fixed data payload and, wherein at least one of the data packets comprises a control data frame with extended fields data and feature data, wherein the extended fields data provides a signature for the presence of the feature data to the target device and a value representing a quantity of feature data within the data packet, further wherein the

value within the extended fields data comprises one byte of data including a first hexadecimal data value and a second hexadecimal data value and wherein the extended fields data encodes the data packet for a number of extension data fields that each hold one byte of extension data, wherein the number of extension data fields is determined such that when the first hexadecimal data value of the extended fields data is equal to eight, the second hexadecimal data value of the extended fields data equals the number of extension data fields; and when the first hexadecimal data value is equal to nine, the number of extension data fields is fifteen plus the second hexadecimal data value.

10. (canceled)
11. (previously presented) A system for transmission of asynchronous AV/C command and response data over a standard IEEE 1394 serial bus, the system comprising:
 - a) a control device in communication with the standard IEEE 1394 serial bus, the control device configured for generating a command data stream comprising at least one command data packet with a control data frame comprising control data fields and extension data for supporting the control device features; and
 - b) a target device in communication with the standard IEEE 1394 serial bus, the target device configured for receiving the command data stream and generating a corresponding response data stream comprising at least one response data packet with a control data frame comprising a target data fields wherein at least one of the target data fields is a response transaction label data field containing transaction label data that codes the response data stream for the compatibility of the target device with the command data stream received.
12. (original) The system of claim 11, wherein the transaction label data that codes the response data stream for error status and error labels.
13. (previously presented) The system of claim 11, wherein at least one of the control data fields is a command transaction data field containing command transaction data, and further wherein the response transaction data and the control transaction data match the command data stream with the corresponding response data stream.

14. (original) The system of claim 11, wherein the target device is a video recorder subunit.
15. (original) The system of claim 11, wherein the control device comprises a video screen and an input device.
16. (original) The system of claim 11, further comprising a memory unit for storing transaction data values data.
17. (canceled)
18. (canceled)
19. (currently amended) A system for transmission of asynchronous AV/C command and response data over a standard IEEE 1394 serial bus, the system comprising:
 - a) a control device with features in communication with the standard IEEE 1394 serial bus, the control device configured for generating a command data stream comprising at least one command data packet with a control data frame comprising control data fields, wherein at least one of the control data fields comprises extended fields and extension data for supporting the control device features; and
 - b) a target device in communication with the standard IEEE 1394 serial bus, the target device configured for receiving the command data stream and generating a response data stream comprising at least one response data packet with a control data frame comprising a target data field, wherein the target data field comprises features data providing a signature of features implemented at the target device, further wherein the control device is capable of adding or removing the extended fields data field for subsequently transmitted command data packets in the event that the target device does not support features encoded for therein.
20. (original) The system of claim 19, wherein the response data packet provides a signature for features supported by both the control device and the target device.

21. (canceled)
22. (original) The system of claim 19, wherein the target device is a video recorder subunit.
23. (original) The system of claim 19, wherein the control device comprises a video screen and an input device.
24. (currently amended) ~~The system of claim 19;~~ A system for transmission of asynchronous AV/C command and response data over a standard IEEE 1394 serial bus, the system comprising:
- a) a control device with features in communication with the standard IEEE 1394 serial bus, the control device configured for generating a command data stream comprising at least one command data packet with a control data frame comprising control data fields, wherein at least one of the control data fields comprises extended fields and extension data for supporting the control device features; and
 - b) a target device in communication with the standard IEEE 1394 serial bus, the target device configured for receiving the command data stream and generating a response data stream comprising at least one response data packet with a control data frame comprising a target data field, wherein the target data field comprises features data providing a signature of features implemented at the target device, further wherein the control device is capable of storing the feature data to provide a history of at least one data transmission between the control device and the target device.
25. (currently amended) A method of establishing a communication protocol for the transmission of AV/C command and response data packets over an IEEE 1394 serial bus, the method comprising:
- a) submitting an AV/C command data packet from a control device over the serial bus to a target device, wherein the command data packet is formatted with extended fields data and extension fields for supporting features of the control device;

- b) detecting the extended fields data at the target device and generating a response data packet therefrom, wherein the response data packet provides a compatibility signature for control device features that are compatible with the target device; and
 - c) transmitting the response data packet to the control device, wherein the control device reads the response data packet and formats subsequently transmitted command data packets transmitted to the target device to comprise extended fields data and extension data fields that support compatible features, further wherein when the response data packet contains an error message, extended fields data and extension data fields are removed from the subsequently transmitted command data packets.
26. (canceled)
27. (currently amended) ~~The method of claim 25;~~ A method of establishing a communication protocol for the transmission of AV/C command and response data packets over an IEEE 1394 serial bus, the method comprising:
- a) submitting an AV/C command data packet from a control device over the serial bus to a target device, wherein the command data packet is formatted with extended fields data and extension fields for supporting features of the control device;
 - b) detecting the extended fields data at the target device and generating a response data packet therefrom, wherein the response data packet provides a compatibility signature for control device features that are compatible with the target device; and
 - c) transmitting the response data packet to the control device, wherein the control device reads the response data packet and formats subsequently transmitted command data packets transmitted to the target device to comprise extended fields data and extension data fields that support compatible features, further wherein an established communication protocol is stored by the target device to provide a history of the compatible device features.